



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,217	08/29/2001	Xiaojiang Zhao	CSPTAL8.001AUS	8889

20995 7590 10/07/2003

KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER

BUTTNER, DAVID J

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/943,217	Applicant(s) ZHAO ET AL.	
	Examiner David Buttner	Art Unit 1712	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Tan article in Macromolecules or the Tan article in ACS Preprints or CN 1257885 in view of Stevens '415.

Each of the primary references, polymerize polycarbonate from carbon dioxide and propylene oxide. The catalyst used is a combination of Yttriumtrihaloacetate, diethyl zinc and glycerol. These references lack the ethylene carbonate or propylene carbonate.

It is known that alkylene carbonates are a by-product included with the polycarbonate when polymerizing alkylene oxide with carbon dioxide (see Stevens's col. 2, lines 61-72; col. 7, lines 32-35). Of course propylene carbonate will be the by-product if propylene oxide was the starting ingredient. Stevens teaches these by-product can be recycled back into the feed-presumably as a cost saving measure.

It would have been obviously to recycle the inevitable propylene carbonate by-product of the primary references back into the feed as a cost savings measure. This propylene carbonate when contacted with the 3-part catalyst of the primary references forms the 4-part catalyst system of applicant's claims.

Applicant's arguments filed 8/21/03 have been fully considered but they are not persuasive.

Applicant argues the proposed rejection recycles the ethylene carbonate or propylene carbonate as monomer rather than catalyst.

There is no requirement that the prior art provide the same reason as applicant to make the claimed invention (Ex parte Levengood 28 USPQ 2d 1300). Rationale different from applicant's is permissible (MPEP 2144).

There is no evidence that the carbonate functions as a catalyst or raises the activity of the catalysts anyway.

The yield comparisons between the cited art and applicant's examples are not valid because all extraneous variables (e.g. Metals, amounts, species of polyol, temp etc) are not held constant. The data of record does not prove the presence of the carbonate increases yield. Secondly, the large amount of propylene carbonate (0.3 mol = 30g) which is expected to function as additional monomer according to Stevens, would be expected to increase yield.

Applicant's argument that Tan's maximum MW of 100,000 cannot be compared applicant's MW is not understood and not present in the claims anyway.

Applicant's argument that recycled carbonate would provide only insufficient mingling between the components, is not supported by any evidence. Interestingly, applicant's claim 1 does not require any specific combining steps either. Mere mingling meets the claim.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

Art Unit: 1712

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Buttner whose telephone number is 703-308-2403. The examiner can normally be reached on Weekdays from 10:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

DAVID J. BUTTNER  
PRIMARY EXAMINER

David Buttner/mn  
October 2, 2003

